

KORNIYENKO, A.A.

KORNIYENKO, A.A.

Tissue therapy of scleroma of the respiratory tract. Vest. otorin. 16 no.3:81 My-Je '54. (MLRA 7:7)

1. Iz kafedry bolesney ukha, gorla nosa (sav. zaslushenny deyatel' nauki Bashkirskoy ASSR prof. S.V.Mikhaylovskiy) L'vovskogo meditsinskogo instituta.

(RHINOSCLEROMA, therapy,

\*tissue ther.)

(TISSUE THERAPY, invarious diseases,

\*rhinoscleroma)

KORNIYENKO, A.A.

Audiometry in disorders of the auditory apparatus. Vest.  
otorin. 21 no.3:13-18 My-Je '59. (MIRA 12:9)

1. Iz surdologicheskogo kabineta L'vovskogo gorodskogo  
psikhonevrologicheskogo dispansera (nauchnyy rukovoditel' -  
zasluzhennyy deyatel' nauki Bashkirskoy ASSR prof.S.V.Mikhay-  
lovskiy).

(HEARING TESTS

audiometry in disord. of auditory appar.  
(Rus))

KORNIYENKO, A.A.

Influence of streptomycin on auditory adaptation. Vest. otorin.  
22 no.1:21-25 Ja-F '60. (MIRA 14:5)

1. Iz L'vovskogo surdologicheskogo kabineta pri gorodskom psikho-  
nevrologicheskom dispansere (nauchnyye rukovoditeli - zasluzhennyy  
deyatel' nauki Bashkirskoy ASSR prof. S.V.Mikhaylovskiy i prof.  
I.I.Fedorov).

(STREPTOMYCIN)

(HEARING)

*KORNIYENKO, A.D.*  
MUSICH, N.I., kandidat sel'skokhozyaystvennykh nauk; KORNIYENKO, A.D.

Characteristics of the agricultural system in Yakutia. Zemledelie  
5 no.4:3-7 Ap '57. (MLRA 10:6)

1. Institut biologii Yakutskogo filiala Akademii nauk SSSR (for  
Musich). 2. Yakutskiy nauchno-issledovatel'skiy institut sel'skogo  
khozyaystva (for Korniyenko).  
(Yakutia—Agriculture)

KORNIYENKO, A. G.

AID P - 5504

Subject : USSR/Aeronautics - maintenance

Card 1/1 Pub. 135 - 21/26

Authors : Sutugin, G. S., Eng.-Col., cand. of tech. sci., and  
Korniyenko, A. G., Eng.-Lt. Col.

Title : To standardize aircraft connectors and assembly  
junctions.

Periodical : Vest. vozd. flota, 3, 76-77, Mr 1957

Abstract : The authors suggest that in the interest of a more  
rational servicing of various types of aircraft on the  
airdromes, the standardization of various aircraft  
connectors of hydraulic and electric systems, of nipple  
joints for filling the pressurized cabins with air, etc.,  
should be carried out.

Institution : None

Submitted : No date

FIOSHIN, M.Ya.; MIRKIND, L.A.; SALMIN', L.A.; KORNIYENKO, A.G.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824720016

Electrochemical carboxylation of unsaturated compounds. Zhur.  
VKHO 10 no.21238 '85. (MIRA 18:6)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni Mendeleeva.

FIOSHIN, M.Ya.; SALMIN', L.A.; MIRKIND, L.A.; KORNIYENKO, A.G.

Electrochemical synthesis of unsaturated dicarboxylic acids.  
Zhur.VKHO 10 no.5:594-595 '65.

(MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskij institut imeni  
Mendeleeva.

KORNIYENKO, A.G., inzhener-podpolkovnik; BOCHAROV, M.D., inzhener-kapitan

Universal service assembly. Vest.Vozd.Fl. no.8:72 Ag '61.  
(MIRA 14:8)

(Motortrucks, Military)

S/204/62/002/004/011/019  
E075/E436

AUTHORS: Fioshin, M.Ya., Kamneva, A.I., Mirkind, L.A.,  
Salmin', L.A., Korniyenko, A.G.

TITLE: Synthesis of higher unsaturated dicarboxylic acids by  
the electrolysis of monoesters of lower acids in the  
presence of 1,3-butadiene

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 557-565

TEXT: Investigation was made of the synthesis of unsaturated  
dicarboxylic acids by the electrolysis of potassium  
monomethyladipate in the presence of 1,3-butadiene. Methanol  
was used as a solvent and the electrolysis carried out at -10 to  
-15°C. It was shown that at low current densities (1 to 1.5 A/dm<sup>2</sup>)  
and high concentration of 1,3-butadiene (more than 4 times the  
molar quantity of monomethyladipate) the reaction is directed  
almost completely towards the formation of diesters of the  
unsaturated acids. The relative content of C<sub>18</sub> acid increases  
with the concentration of butadiene. The relationship between  
the relative contents of C<sub>14</sub> and C<sub>18</sub> acids in the neutral products  
is given by

$$k_1 = \frac{1}{a + bC_D} \quad (2)$$

Card 1/2



Synthesis of higher ...

S/204/62/002/004/011/019  
E075/E436

where  $a = 0.282$ ,  $b = 0.063$  and  $C_D$  is the concentration of butadiene. The total yield of acids is expressed approximately by

$$A = a \exp(-bD_0) \quad (1)$$

where  $a = 100$ ,  $b = 0.074$  and  $D_0$  is the current density in  $A/dm^2$ . The esters obtained were those of 6-dodecene-1, 12-dicarboxylic acid and 6,10-hexadecadiene-1, 16-dicarboxylic acids. Saponification of the esters with aqueous alkali gave the unsaturated dicarboxylic acids. The maximum yield of the  $C_{18}$  acid was 49.1% under the optimum conditions, i.e. current density -  $0.5 A/dm^2$ , butadiene concentration - 9 mole/litre, the ratio of current passed to that required by theory - 0.25. The maximum yield of the  $C_{14}$  acid was 67.5%. The results indicate that the reaction constitutes a practical method for the synthesis of higher dicarboxylic acids. There are 7 figures and 3 tables.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut  
im. D.I.Mendeleyeva (Moscow Institute of Chemical  
Technology imeni D.I.Mendeleyev)

Card 2/2

FIOSHIN, M. Ya.; KAMNEVA, A. I.; MIRKIND, L. A.; SALMIN<sup>1</sup>, L. A.;  
KORNIYENKO, A. G.

Synthesis of higher unsaturated dicarboxylic acids by the  
electrolysis of lower acid monoesters in the presence of  
1,2-butadiene. Neftekhimia 2 no.4:557-565 J1-Ag '62.  
(MIRA 15:10)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D. I.  
Mendeleeva.

(Acids, Organic) (Esters) (Butadiene)

10889-67 TCH

ACC NR: AP6009322

(N)

SOURCE CODE: UR/0256/65/000/009/0065/0070

AUTHOR: Korniyenko, A. I. (Engineer, Lieutenant Colonel, Candidate of Technical Sciences)

ORG: None

TITLE: Bionics in military affairs

SOURCE: Vestnik protivovozdushnoy oborony, no. 9, 1965, 65-70

TOPIC TAGS: bionics, cybernetics, military R and D, physics research, scientific research

ABSTRACT: The discussion of the military application of such new sciences as bionics and cybernetics is based on articles the author read in the foreign press, primarily U.S. and British. These new sciences have been developed to the point where a whole series of cybernetic machines have been built and there is now a much better understanding of biological processes. Bionics is closely connected with such technical sciences as radio electronics, aerial navigation and shipbuilding. The U.S. Navy is doing a great deal of research in radar and sonar and is also closely examining such things as the ability of fish to detect odors, the ability of snakes to detect heat, the ability of frogs to see only what is necessary, the ability of bats to fly in the dark, the dolphin's ability to communicate with another dolphin and the homing instinct of pigeons or turtles. The brain is another complex organism under-

Card 1/2

ACC NR: AP6009322

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824720016-1

going close scrutiny. If the ability of the brain to recognize objects could be duplicated by a machine a missile could be aimed accurately, a spy-satellite could detect the launching of an ICBM, or an aerial photo could be read out. The article describes a transistorized machine which can duplicate a neuron, thus permitting the construction of various models, such as a frog's eye or a human ear, which will react to various stimuli. Thus, the sciences of bionics and cybernetics are of great value to the military and can be used for everything from target detection to development of a device that will enable a satellite to repair itself while in orbit. Orig. art. has: 4 figures.

SUB CODE: 15, 06/SUBM DATE: None

Card 2/2

KORNIYENKO, A.I., inzhener-mayor

Characteristics of amplifiers with regenerative feedback. Vest.  
protivovozd. obor. no.11:22-24 N '61. (MIRA 16:10)

(Amplifiers, Electron tube)

KORNIYENKO, A. M.

Steam Turbines

Preventing ignition of oil in turbines model SR-26; Rab. energ. 2 no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KORNIYANKO, A. K.

Vibration, Steam Turbines

Preventing excessive turbine vibration. Elek.  
sta. 23 no. 3, 1952

Inzh.

SO: Monthly List of Russian Accessions, Library of Congress, July 195<sup>2</sup>~~3~~, Uncl.

KORNIYENKO, A.M., inzhener.

Eliminating vibration from steam turbines. Energetik 1 no.3:8 Ag '53.  
(MLBA 6:8)  
(Steam turbines)



1. KORNIYENKO, A. M., Eng.
2. USSR (600)
4. Steam Turbines
7. Adjusting cup-shaped control valves of steam turbines, Elek. sta.,  
24, No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

KORNIYENKO, A.M., inzhener.

Repair of turbine reducers. Elek.sta. 25 no.5:10-16 My '54. (MLRA 7:6)  
(Steam turbines)

KORNIYENKO, A.M., inzhener, laureat Stalinskoy premii.

Selecting a pair of high-speed reduction gears. Vest.mash. 34  
no.7:3-4 JI '54. (MLRA 7:8)  
(Gearing)

KORNIYENKO, Afanasiy Mikhaylovich; DAVIDOVSKIY, O.N., redaktor; VORONIN,  
A.I., tekhnicheskiy redaktor.

[Manufacture, assembly, operation and repair of turbine reduction  
gear] Proizvodstvo, montazh, ekspluatatsiia i remont turbinnykh re-  
duktorov. Moskva, Gos.energ.izd-vo, 1955. 293 p. (MIRA 8:4)  
(Turbines) (Gearing)

KORNIYENKO, A. M.

AID P - 1528

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 24/36

Author : Korniyenko, A. M., Eng.

Title : Prevention of breakdowns of turbine reduction gears

Periodical : Elek. sta., 3, 52-53, Mr 1955

Abstract : The author enumerates and analyses the causes of breakdowns and describes methods of their prevention.  
One photograph, 4 drawings

Institution: None

Submitted : No date

KORNIYENKO, A.M., inzhener; KHOLODNYI, S.I., inzhener.

Replacement of worn packing rings in the blading assembly of radial stages in Ljungström turbines. Elek. sta. 27 no.9:52-54 8 '56.  
(MLRA 9:11)

(Steam turbines--Maintenance and repair)

*UKR 554*  
Name: KORNIYENKO, Afanasiy Mikhaylovich

Title: Docent

Affiliation: Khar'kov State Ped Inst imeni Skovoroda, Chair  
of Physics (Course of Heat Engineering) *6.5*

Date: 12 Jan 57

Source: BMVO 7/57

*End*

KORNIYENKO, A.M., inshener.

APPROVED FOR RELEASE: 06/14/2000

Energetik 5 no.8:17-19 Ag '57.

(Steam turbines)

(MLA 10:10)

CIA-RDP86-00513R000824720016

KORNIYENKO, A.M., inzhener.

Rebuilding a steam turbine. Elek.sta. 28 no.8:69-72 Ag '57.  
(MIRA 10:10)

(Steam turbines)



KORNIYENKO, A.M., dots.

Relaxation method for straightening steam turbine disks. Vest. mash.  
37 no.8:77-79 Ag '57. (MIRA 10:9)  
(Steam-turbine disks) (Furnaces, Heat-treating)

KORNIYENKO, A.M., dots.

Raising the production quality and efficiency of toothed turbine reduction gears. Energomashinostroenie 5 no.2:35-39 F '59.

(MIRA 12:3)

(Gearing) (Turbines)

85138

S/104/60/000/009/002/005

E073/E335

24.1900 2209, 1063.1147

AUTHORS: Korniyenko, A.M. and Kosman, A.S., Engineers

TITLE: Ultrasonic Defectoscopy on Turbine Reductor Gears

PERIODICAL: Elektricheskiye stantsii, 1960, No. 9, pp. 24 - 26

TEXT: Use of various magnetic methods (for instance, magnetisation by an induced current from a closed core or magnetisation by a current pulse) as well as the luminescent method of defectoscopy did not yield positive results since all these methods are essentially suitable for detecting surface defects. Application of ultrasonic defectoscopes is satisfactory for the rim of the gear but it did not prove satisfactory for the teeth. This is attributed to the fact that the quantity of ultrasonic energy entering the gear teeth is too low to produce, even with maximum amplification, a vertical "peak" of the reflected signal on the oscillograph screen. Therefore, the authors applied for this purpose apparatus based on resonance. The instrument works on the following principle: ultrasonic energy of a variable frequency (3 to 6 Mc/s) is beamed into the material to be

Card 1/4

X

85138  
S/104/60/000/009/002/005  
E073/E335

### Ultrasonic Defectoscopy on Turbine Reductor Gears

tested, using a piezoelectric transducer. At a certain frequency that corresponds to the frequency of the natural oscillations of the material (with respect to depth) being tested standing waves will form with nodes located at the surface; thereby, ultrasonic waves will be fully reflected from the surface. In this case the oscillator is tuned to be in resonance with the thickness of the material. At maximum reflection of the ultrasonic waves the piezoelectric transducer which is applied to the component will oscillate with an amplitude many times that of oscillations generated in it by a single generator, i.e. a maximum release of power occurs, as a result of which the piezoelectric transducer will be subject to sharp load changes. This, in turn, will affect the operation of the variable frequency oscillator in whose cathode pulses are being formed. These pulses are fed to the vertical plates of the oscillograph. The horizontal plates are fed with a voltage that is proportional to the variable frequency of the ultrasonic oscillations. As a result, pulses will be observed on the screen, the character of which will indicate the presence

X

Card 2/4

APPROVED FOR RELEASE: 06/14/2000

85138  
S/104/60/000/009/002/005  
E073/E335

### Ultrasonic Defectoscopy on Turbine Reductor Gears

or absence of a defect in the material. This instrument, BL-8P (V4-8R), is basically intended for measuring the thickness of metallic components in the case that access is available from one side only and is used for determining differences in wall thickness, detection of layering in tubes and rolled sheets, controlling the quality of brazing and glueing of metals. The search for defects is carried out in two stages, one for the teeth, using the above mentioned resonance defectoscope and one for the rims, using an ultrasonic defectoscope operating at a frequency of 2.5 Mc/s and a prismatic probe with a reflection angle  $\alpha = 40^\circ$ . Experimental use of the resonance defectoscope on specimens with artificial defects has shown that the sensitivity of the instrument is sufficiently high and defects in the root of the teeth with an equivalent area of 2 mm<sup>2</sup> could be easily detected by this instrument. Practical experience has shown that reduction gear pairs should be subjected to ultrasonic inspection after having been in operation for 50 000 to 60 000 hours.

X

Card 3/4

KORNIYENKO, A.M., inzh.

Flexing of steam turbine rotors in the limits of elastic deformations. Elek. sta. 32 no.7:72-74 J1 '61. (MIRA 14:10)  
(Steam turbines)

S/262/62/000/020/003/009  
E194/E135

AUTHORS: Korniyyenko, A.M., and Kosman, A.S.

TITLE: Protecting steam turbine blades against erosion

PERIODICAL: Referativnyy zhurnal, Silovyye ustanovki, no.20, 1962, 22-23, abstract 42.20.132. (Elektr. stantsii, no.6, 1962, 73-74)

TEXT: Blading of reaction turbines is more subject to erosion than that of impulse turbines. The cheapest and simplest way of protecting the blades is electric-spark hardening of the inlet edges proposed by TsNIITMASH, with which the hardening can be carried out directly on the rotor. A process is described which increases the service life of blades by a factor of 2-2.5.

[Abstractor's note: Complete translation.]

Card 1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824720016-1

KORNIYENKO, A.M., ~~inzh. tekhn. nauk~~; KOSMAN, A.S., inzh.

Check of the thickness of pipes in electric power plants.

Elek. sta. 33 no.5:80-81 My '62.

(MIRA 15:7)

(Pipes—Testing)

(Ultrasonic waves—Industrial applications)

KORNIYENKO, A.M., inzh.

Elimination of vibration in a turbogenerator unit manufactured by  
the Lang corporation. Elek. sta. 32 no.2:72-74 F '61.  
(MIRA 16:7)

(Turbogenerators--Vibration)

KORNIYENKO, A.M., kand. tekhn. nauk

Experience in using oil with decreased temperature in the reducing  
gear of toothed turbine units. Elek. sta. 35 no.7:80-82 J1 '64.  
(MTRA 17:11)



KORNIYENKO, A.M., kand. tekhn. nauk

A case of the buckling of the rotor of a steam turbine and  
methods for preventing it. Elek. sta 36 no.4:77-79 Ap '65.  
(MIRA 18:6)

KORNIYENKO, A.M., kand. tekhn. nauk; HORISENKO, A.P., inzh.

Measurement of the absolute vibration of turbine rotors using a  
noncontact method. Energ. i elektrotekh. prom. no.4:37-39 O-D '65.  
(MIRA 19:1)

KORNIYENKO, A.M.; SHTEL'MAKHOV, M.S.; GEYLER, Z.Sh.; BERESNEV, V.A.;  
KOTLIK, S.B.; GORFINSKIY, Kh.M.; ZEL'DIN, Yu.R.; KURGIN, Yu.M.;  
BELYAYEV, V.G.; ZAK, P.S.; ZAYTSEV, A.A.; LI, A.M.; SKVORTSOV, L.N.;  
LUTTS, R.R.; KHVINGIYA, M.V.; NINOSHVILI, B.I.; SEMENCHENKO, D.I.;  
SUKHANOV, V.B.

Soviet inventions in mechanical engineering. Vest.mashinostr.  
45 no.11:87-88 N '65. (MIRA 18:12)

885. On sterility in male farm animals (goats, sheep, etc.) in  
experimental trypanosomiasis. A. M. Kormenko, Irad 7. Jec.  
Akad. Nauk Turkmen SSR, 1954, Ashkhabad, 1955, 368-370. Referat  
Zh. Biol., 1956, Abstr. No. 52279. (Russian) C. C. BARNARD

SERDYUK, G.B.; KORNIYENKO, A.N.

The welding arc in an alternating transverse magnetic field.  
Avtom. svar. 16 no.10:8-14 0 '63. (MIRA 16:12)

1. Kiyevskiy politekhnicheskii institut.

KORNIYENKO, A.N., inzh.

Magnetic control of the process of build-up welding with flux  
and a tape electrode. Svar.proizv. no.4:12-14 Ap '64. (MIRA 18:4)

1. Kiyevskiy politekhnicheskii institut.

ALICHKIN, S.L.; AGRINSKIY, N.I.; ANDREYEV, G.F.; BAKUMENKO, G.D.;  
VORONTSOV, S.M.; VOYSTRIKOV, I.V.; GRADYUSHKO, G.M.; ZYKOV, A.V.  
IVANOVTSSEV, P.V.; KINBURG, M.Ya.; KOVALEV, P.A.; KOZLOVSKIY, Ye.V.  
KORNIYENKO, A.P.; KOLYAKOV, Ya.Ye.; LAKTIONOV, A.M.; LEVADNYY, B.A.  
MEDVEDEV, I.D.; NOVIKOV, N.V.; ORLOV, F.M.; OSTROVSKIY, A.A.;  
ORTSEV, V.P.; PENIONZHKO, A.M.; POLOZ, D.D.; PRITULIN, P.I.;  
PETUKHOVSKIY, A.A.; ROGALEV, G.T.; RYBAK, P.Ya.; SUTYAGIN, G.P.  
TUKOV, R.A.; KHAVCHENKO, D.F.; CHERNETSKIY, T.I.; SHPAYER, N.M.  
SHUSTOVSKIY, F.A.

Nikolai Vasil'evich Spesivtsev. Veterinariia 35 no.2:96 F '58.  
(MIRA 11:2)  
(Spesivtsev, Nikolai Vasil'evich, 1901-1957)

KORNIYEKO, A. YA.

"AN AMATEUR TELEVISOR," RADIO, 20, No. 5, 1947.



KORNIYENKO, A.

USSR/Radio, Frequency Modulation  
Television -- Transmission

Oct 48

"Reception of FM Signals Utilized for Audio  
Accompaniment of Television Transmission,"  
A. Korniyenko, 3 pp

"Radio" No 10

Conclusion of article begun in "Radio" No 8, 1948.  
Discusses discriminator circuits, tuning FM  
receiver, and conclusions, with five diagrams.

LC

22/19792

KORNIYENKO, A. YA.

PA 26/49T86

Jan 49

USSR/Radio  
Television - Receivers

"A New Book on Television" 1 p

"Radio" No 1

Reviews A. Ya. Korniyenko's book, "A Television  
Set for Amateurs," which describes set suitable  
for receiving transmissions from the Moscow televi-  
sion center.

26/49T86

KORNIYEKO. A. YA.

"LENSES FOR TELEVISION RECEIVERS," RADIO 22, No. 6, 1949.

KORNIYEKO, A. YA.

"AT THE EXHIBIT OF RADIO AMATEUR CONSTRUCTORS," RADIO, 22, No. 8, 1949.

KORNIYENKO, A. Ya.

"Wired Television Centers", Popular Radio Library, No. 69, Editor-in-Chief,  
Academician A. I. Berg. Gosenergoizdat, Moscow-Leningrad, 72 pp, 1950.

KORNIYENKO, A      Ya

N/5  
744.721  
.K81

Lyubitel'skiy televizor LTK-9. (Amateur television set LTK-9)  
Moscow, Gosenergoizdat, 1951.  
110 p. Diagr., (Massovaya Radio Biblioteka).

KORNIYENKO, A

Ya

Amateur-Fernsehgerät LTK-9: Leipzig, Fachbuchverlag, 1953. 89 p. illus., diagrs., tables. Translated from the Russian, "Lyubitel'skiy Televizor LTK-9, Moscow, 1951

N/5  
744.21  
.K8

KORNIYENKO, A Ya.

108-7-3/13

AUTHOR : KORNIYENKO A.Ya.  
 TITLE : On the Calculation of the Amplitude-Selector of a Television Receiver.  
 (K raschetu amplitudnogo selektora televizionnogo priyemnika-Russian)

PERIODICAL : Radiotekhnika, 1957, Vol 12, Nr 7, pp 15 - 23 (U.S.S.R.)

ABSTRACT

According to whether diodes or amplifier-valves are used the schemes can be divided into diode-selectors and selectors with amplifier-valves. In this paper the author gives the fundamental relations for the selection of the elements of the amplitude-selector scheme. He shows that in the most simple schemes, where the automatic displacement occurs at the expense of the signal current, the calculation of the resistance magnitude of the automatic displacement is reduced to a selection of the ratio  $\delta$ . between the resistance  $R$  of the discharge-circuit and the resistance  $R_p + R_i$  of the charge-circuit  $R = \delta(R_p + R_i)$

$R_p$  is the load resistance,  $R_i$  is the internal resistance of the diode. The author shows that for a scheme of the diode-amplitude-selector which is connected in series the coefficient  $\delta$  is determined by means of  $\delta = \frac{T}{\tau_c} \frac{e_u}{\tau_c} = 38,4$ . The level of the separation of the

synchronizing impulse does not depend on the coefficients of the image-signal form.  $T$  is the period of the series of synchronized impulses.  $e_u$  is the amplitude of the image-signals.  $\tau_c$  is the duration of the synchronizing impulses. In a diode selector and a selector with amplifier valve which is connected in series  $\delta =$

Card 1/2



Korniyenko, A.

TELEVISION

"Amplitude Selector for Television Sets" by A. Korniyenko,  
Radio, No 1, January 1958, pp 37-40.

Description of the circuit used for separating the synchronizing pulses from the total television signal. The circuit in general is discussed, and some simpler realizations of the scheme are described in detail.

Card: 1/1

-2-

describes briefly how these requirements should be investigated in TV sets. Then he describes an amplitude selector with a series automatic mixing circuit, which might be used not only for a diode selector, but also for a selector with an amplifier tube (Author's patent application Er 58621/26). Figure 2 shows the circuit diagram.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000824720016-1

Card 1/2

which may be used in any TV set. Another amplitude selector

New Amplitude-Selector Circuits

107-58-5-19/32

with a variable time constant (Author's patent applications Nr 58106/26 and Nr 58324/26) is shown in figures 4-7. This type is free of the disadvantages found in amplitude selectors with small time constants. Practically it does not require additional tuning and the selection of its component parts is not critical. This selector type will work on tubes "6N1P", "6N8S", or better, "6Zh1P". There are 7 figures.

AVAILABLE: Library of Congress

Card 2/2

А. В. Коротков  
Ассистент главного инженера

9 июня  
(с 10 до 22 часов)

В. И. Гринин,  
В. В. Емельянов

Генератор импульсов типа полупроводниковый.

В. И. Гринин,  
Ю. Е. Карачин,  
Л. В. Афанасьев

Вопросы работы с экраном электронно-лучевой трубки  
для методов фотографии и микрофотографии.

А. А. Голышев,  
Л. А. Гринин

Новое устройство телеметрического и оптического

В. А. Давид,  
Л. А. Гринин,  
В. И. Емельянов

Применение фототрубы с ПЗН в телеметрическом и  
оптическом телеметрическом устройстве

34

10 июня  
(с 10 до 16 часов)

С. В. Гурин,  
В. И. Емельянов

Вопросы работы на разрывном устройстве с не-  
посредственным воздействием

В. В. Емельянов

Экспериментальный разрывной элемент  
разрывного телеметрического устройства по типу  
структурной характеристики

В. Г. Карачин,  
В. И. Емельянов

Исследования работы устройства для теле-  
метрического устройства

В. В. Емельянов,  
В. И. Емельянов

В. В. Емельянов,  
В. И. Емельянов

Исследования работы устройства телеметрического  
устройства по типу работы телеметрического

10 июня  
(с 10 до 22 часов)

37

report submitted for the Confidential Meeting of the Scientific Technological Society of  
Radio Engineering and Electrical Communications in. A. V. Puzov (YURIS); Moscow,  
8-18 June, 1959

KORNIYENKO, A. (Moskva)

Two more remarks. Radio no.6:10 Je '60.  
(Television)

(MIRA 13:7)

KORNIYENKO, A.Ya.

Calculation of the time constant in a self-biasing circuit of an amplitude selector. Radiotekhnika 15 no. 5:47-54 My '60.  
(MIRA 14:4)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva  
radiotekhniki i elektrosvyazi.  
(Television) (Electronic circuits)

KORNIYENKO, A.Ya.

Analysis of amplitude selecting networks. Radiotekhnika 15  
no.12:25-34 D '60. (MIRA 14:9)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva  
radiotekhniki i elektrosvyazi imeni Popova.  
(Television--Receivers and reception)  
(Pulse circuits)

L 51372-65 EEC(b)-2/ERC(k)-2/EWA(h)/EWF(1)/T Pt-4/Pz-6/Feb IJP(c) GS

ACCESSION NR: AT5011629

UR/0000/64/000/000/0554/0562

AUTHOR: Korniyenko, A. Ya.

TITLE: Loading capacity of ferrite-transistor cells

SOURCE: Vsesoyuznoye soveshchaniye po magnitnym elementam avtomatiki, teleme-  
mekhaniki, izmeritel'noy i vychislitel'noy tekhniki. Lvov, 1962. Magnitnyye  
elementy avtomatiki, telemekhaniki, izmeritel'noy i vychislitel'noy tekhniki  
(Magnetic elements of automatic control, remote control, measurement and computer  
engineering); trudy soveshchaniya. Kiev, Naukova dumka, 1964, 554-562

TOPIC TAGS: ferrite transistor cell, cell loading capacity, core remagnetization  
time, output pulse duration, supply voltage utilization, information registration

The numerical load capacity of ferrite-transistor cells is determined  
by the controlled by the...  
...capacity must, naturally...  
...is needed...  
...of the param...  
...conditions...

L 51372-65

ACCESSION NR: AT5011629

experimentally most of the factors determining the loading capacity: 1) stabilization of the core remagnetization time during the retrieval of information; 2) duration of the output pulse of the cell; 3) voltage supply of the cells; 4) changes in transistor parameters; 5) the power supply voltage utilization coefficient; and 6) information registration. Orig. art. has: 15 formulas, 7 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 29Sep64

ENCL: 00

SUB CODE: EC, DP

NO REF SOV: 000

OTHER: 000

Card 2/2 7/15



CHURCHILL, Z.F.; NORTHMAN, L.F.

Conference on the use of hydroponics in agriculture. Fiziol.rast.  
12 no.1:188-190 Jan-F '65. (MIRA 18:3)

NESTERENKO, V.V., inzh.; KORNIYENKO, D.D., inzh.; AL'BRUT, B.I., inzh.

Large-scale blasting in the sublevel caving system with breaking  
of the ore through deep holes at the Dzerzhinskii mine. Met. i  
gornorud. prom. no.3:46-50 My-Je '62. (MIRA 15:9)  
(Krivoy Rog Basin--Iron mines and mining)  
(Blasting)

KORNIYENKO, Daniil Iosifovich, general-mayor.; ZUBKOV, I.I., general-mayor,  
nauchnyy red.; KAPLUNOV, A.S., red.; BERLOV, A.P., tekhn. red.

[Role of the morale factor in modern war] O roli moral'nogo faktora  
v sovremennoi voine. Moskva, Izd-vo "Znanie," 1958. 47 p.  
(Vsesoiuznoe obshchestvo po rasprostraneniю politicheskikh i  
nauchnykh znaniy. Ser. 1, no. 28). (MIRA 11:11)  
(Morale)

L 7813-66 EWT(d)/EWT(1)/T/EWA(h) IJP(c)

ACC NR: AP5027622

SOURCE CODE: UR/0109/65/010/011/1992/1999

AUTHOR: Nikol'skiy, V. V.; Sukhov, V. G.; Korniyyenko, D. I.; Orlov, V. P.

44, 55

44, 55

44, 55

44, 55

ORG: none

TITLE: Calculation of a rectangular waveguide filled with ferrite or ferrite and dielectric and magnetized longitudinally

SOURCE: Radiotekhnika i elektronika, v. 10, no. 11, 1965, 1992-1999

TOPIC TAGS: rectangular waveguide, ferrite layer waveguide, dielectric layer waveguide

ABSTRACT: The method of eigen-functions used by the authors for designing rectangular waveguides containing ferrite rods (Rad. i elektronika, 1964, 9, 8, 1345, and 1965, 10, 4, 618) is extended over these configurations: two ferrite strips adjoining the wider walls of the waveguide; same, adjoining the narrower

Card 1/2

UDC: 621.372.853.2.001.24

L 7813-66

ACC NR: AP5027622

0  
walls; ferrite rod in a waveguide filled with a dielectric of  $\epsilon \neq 1$ ; hollow ferrite rod; dielectric strip between two ferrite strips; ferrite strip between two dielectric strips. Curves of the propagation constant, losses, etc., for quasi- $TE_{01}$  and quasi- $TE_{10}$  modes calculated on a digital computer are presented. The mathematical interpretation of the electric and magnetic fields in a ferrite-containing waveguide is discussed. Orig. art. has: 8 figures, 3 formulas, and 4 tables.

SUB CODE: 09 / SUBM DATE: 20Jul64 / ORIG REF: 003

Card 2/2

*Korniyenko, Danil - Losifovich*

KORNIYENKO, Danil Losifovich; SOLOV'YEV, N.I., red.; TARASOV, I.A., red.;  
KORDIAKOVA, A.N., techn.red.

[Our country's navy] Flot nashoi rodiny. Moskva, Voen.izd-vo  
M-va obor. SSSR, 1957. 453 p. (MIRA 11:2)  
(Russia--Navy--History)

TARASOVA, L.P., inzh.; KALASHNIKOV, A.G., inzh.; DOLINENKO, O.V., inzh.;  
NAZARENKO, Ye.T., inzh.; BUL'SNIY, M.T., inzh. [deceased];  
SVIRIDENKO, F.F., inzh.; Prinsipali uchastiye: LAPINA, A.M., inzh.;  
KORNIYENKO, D.I., inzh.

Nonmetallic inclusions in rail steel. Stal' 23 no.8:738-740  
Ag '63. (MIRA 16:9)  
(Railroads--Rails) (Steel--Inclusions)

KORNIENKO, D. I.

Author: Kornienko, D. I.

Title: The Sea Fleet of the Soviet Socialist Republic. (Morskoi flot sovetskoi sotsialisticheskoi derzhavy.) 215 p.

City: Moscow

Publisher:

~~Publications~~ Armed Forces of USSR.

Date: 1950

Available: Library of Congress

Source: Monthly List of Russian Accessions, Vol. 3, No. 12, March, 1951



ACCESSION NR: AP4043668

S/0109/64/009/008/1345/1356

AUTHOR: Nikol'skiy, V. V.; Sukhov, V. G.; Korniyenko, D. I.; Orlov, V. P.

TITLE: Calculation of a rectangular waveguide containing a longitudinally-magnetized ferrite by the eigenfunction method

SOURCE: Radiotekhnika i elektronika, v. 9, no. 8, 1964, 1345-1356

TOPIC TAGS: waveguide, ferrite, longitudinally magnetized ferrite, ferrite containing waveguide

ABSTRACT: Based on the Galerkin-Ritz theory, a method for calculating the propagation constants of and fields in a rectangular waveguide partially filled with a longitudinally-magnetized ferrite is developed. The problem is solved as a boundary problem for the waveguide cross-section; Maxwell's equations are used. Phase shift and attenuation are calculated for a wide range of ferrite characteristics, sizes and configurations of the system. Programing time and

Card 1/2

1. The first part of the document is a letter from the

Page 1

1 47062-65

ACCESSION NR: AP5010092

size and parameters and is not constant over the entire section  
of the similarity of physical processes in the rectangular waveguide ferrite

OTHER.

KORNIYENKO, E.A.

Changes in the caliber of retinal vessels in normal and abnormal menstrual cycle. Akush. i gin. 40 no.3:92-94 My-Je '64.

(MIRA 18:6)

1. Kafedra akusherstva i ginekologii pedagogicheskogo fakul'teta (zāv. - prof. A.A.Lebedev) II Moskovskogo meditsinskogo instituta imeni Pirogova.

KORNIYENKO, E.A.

Vascular rhythm in the intramenstrual period during normal  
and pathological menstrual function. Sov. med. 28 no.6:  
49-52 Je '65. (MIRA 18:8)

1. Kafedra akusherstva i ginekologii (zav.- prof. A.A. Lebedev)  
pediatricheskogo fakul'teta II Moskovskogo meditsinskogo  
instituta imeni N.I. Pirogova.

. S.; KAPITONOV, I. M.; KORNIYENKO, E. I.; SHEVCHENKO, V. G.; YUR'YEV, ...

Investigations of the Reaction  $\text{Ca}^{40}(\gamma, p)$ ."

report submitted for All-Union Conf on Nuclear Spectroscopy, Tbilisi, 14-22  
Feb 64.

NIIYaF, MGU (Sci Res Inst Nuclear Physics, Moscow State Univ)

ISHKHANOV, B.S.; KORNIYENKO, E.N.; SOROKIN, Yu.I.; SHEVCHENKO, V.G.;  
YUR'YEV, B.A.

Cross section of the  $Rh^{103}(\gamma, p)$  reaction. Zhur. eksp. i teor.  
fiz. 45 no.2:38-42 Ag '63. (MIRA 16:9)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo  
universiteta.

(Nuclear reactions)

ACCESSION NR: AP4031181

S/0056/64/046/004/1484/1486

AUTHOR: Ishkhanov, B. S.; Kapitonov, I. M.; Korniyenko, E. N.; Shevchenko, V. G.; Yur'yev, B. A.

TITLE: Photoprotons from calcium

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1484-1486

TOPIC TAGS: photoproton, angular distribution, energy distribution, photoproton yield curve, integrated cross section, shell model, sum rule

ABSTRACT: To eliminate some contradictions which still exist between the calculations of the photodisintegration of  $\text{Ca}^{40}$  according to the many-particle shell model and the experimental data, the authors measured the angular and energy distribution of photoprotons from  $\text{Ca}^{40}$  for a maximum  $\gamma$ -ray energy 22 MeV, and also obtained cross sections for the reactions  $\text{Ca}^{40}(\gamma, p)$ . The measurements were made on the 35 MeV betatron of NIIYaF MGU, the energy distributions being obtained with emulsions and the photoproton yield curves with scintillation spectrometers. The position of the peak in the cross section for the  $(\gamma, p)$  reaction agrees with the theoretical calculation Balashov, Shevchenko, and Yudin (Nucl. Phys. v. 27, 323, 1961), and the integrated cross section agrees with both the sum-rule calculations and

Card

1/4



ACCESSION NR: AP4031181

the shell-model calculations. The positions of the cross section peaks also agree with theory. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 24Sep63

DATE ACQ: 07May64

ENCL: 02

SUB CODE: NP

NR REF SOV: 004

OTHER: 002

Card 2/4

85872

S/048/60/024/011/008/036  
B006/B056

24.7800 (1035, 1144)  
9.2180 (3203, 1162)

AUTHORS: Yurin, V. A., Baberkin, A. S., Korniyenko, E. N.,  
Gavrilova, I. V.

TITLE: The Action of  $\gamma$ -Radiation Upon the Ferroelectric Properties  
of Triglycine Sulfate Crystals

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 11, pp. 1334 - 1336

TEXT: The present paper is a reproduction of a lecture delivered on the  
3rd Conference on Ferroelectricity, which took place in Moscow from  
January 25 to 30, 1960. The authors investigated the influences exerted  
by  $\gamma$ -radiation upon the properties of triglycine sulfate (TGS), taking  
special account of the stabilization of the single-domain state. TGS  
Y-cuts of different shape and size were investigated, upon which silver  
electrodes had been sputtered in vacuo. From the  $\text{Co}^{60}$  source the sample  
received a dose rate of 235 r/sec. From an observation of the hysteresis  
loops and their changes due to  $\gamma$ -radiation above and below Curie point,  
with and without external (variable or constant) electric field, the

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85872

The Action of  $\gamma$ -Radiation Upon the Ferro-  
electric Properties of Triglycine Sulfate  
Crystals

S/048/60/024/011/008/036  
B006/B056

following conclusions could be drawn: 1) Under the influence of gamma irradiation either stable polydomain states are formed in TGS crystals (to which the double hysteresis corresponds), or single stable domain states (to which the displaced hysteresis corresponds); this means that that form of domain structure is "solidified", which existed during irradiation and during holding time after irradiation at a temperature below Curie point. 2) The stability of domain structures is explained by the formation of "internal displacement fields" in the crystal, where in polydomain samples the signs of the "internal displacements" in neighboring antiparallel domains are reversed, and in single-domain samples these signs are then uniform in the whole sample. These displacements are not formed immediately during irradiation, but in the course of relaxation processes, above all during diffusion processes, due to which the radiolysis products in the lattice are deposited at the places of minimum energy. These places are interrelated with the existence of a spontaneous polarization in the crystal (as well as with their direction). This conception corresponds in ferromagnetic materials to an oriented ordering, which causes a uniaxial magnetic anisotropy, whose

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85872

The Action of  $\gamma$ -Radiation Upon the Ferro-  
electric Properties of Triglycine Sulfate  
Crystals

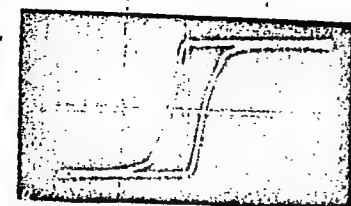
S/048/60/024/011/008/036  
B006/B056

occurrence is explained as a perminvar effect or magnetic aftereffect.

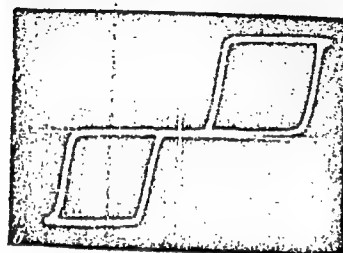
3) The results obtained by the authors and their explanations agree with the results obtained by the irradiation of TGS with X-ray- or ultra-violet irradiation. The authors thank I. S. Zheludev, M. A. Proskurnin, and I. S. Rez for their interest in this paper. There are 1 figure and 7 references: 5 Soviet, 1 US, and 1 French.

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of  
Crystallography of the Academy of Sciences USSR)

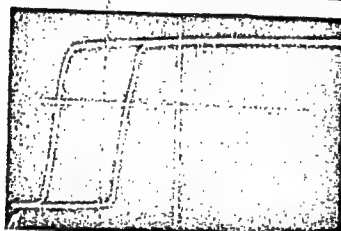
Card 3/4



a



b



c

85872

S/048/60/024/011/008/036  
B006/B056

Legend to the Figure:  
Hysteresis loop of TGS: a - before irradiation; b - after an irradiation with  $2 \cdot 10^6$  r; c - after irradiation with  $2 \cdot 10^6$  r, the irradiation taking place while a field  $+E > E_{sat}$  was applied.  $E_{\sim}$  was maximally 2 kv/cm at 50 cps;  $t = 20^\circ\text{C}$ .

Figure

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SSA(L)/SMT(M)

195005944

S/148/85/029/002/0221/0224

B.S.; Kapitonov, I.M.; Korniyenko, A.V.; Shchegolev, V.G.;

of the  $\text{Ca}^{40}(\gamma, p)$  reaction. Report of the Institute of Physics on  
prepared in Tbilisi, 14-22 Feb 1981

Yuriy A. Gariya Izhmashskiy, 1981, 14-22 Feb 1981

including, gamma reaction, photonuclear reaction, calcium

Others have determined the energy and angular distributions of photo-  
disintegration of  $\text{Ca}^{40}$  nuclei by 18, 22 and 26 MeV gamma rays from the 35  
Moscow State University. The data were compared with calculated bor-  
rowed large amount of theoretical work. The results are presented in  
the contradictory nature of some of the data. The data (4.4  
MeV target having the natural abundance of  $\text{Ca}^{40}$  was employed  
was described elsewhere (V. I. Zhurav, et al., Zhurav, Zhurav,  
S. 2.1363). The energy distribution of the reaction is 18 MeV  
and clear peaks at 2.4 and 4.7 MeV. The results of the pre-

- 4.3

[illegible]

...Ispovedatel'skiy ...  
...M.V. Lomonosov ...  
...Moscow State University)

ENCL: 00

S.T. CODE: NP

OTHER: 006

KORNIYENKO, F.

One hundred centners of meat and four hundred centners of milk.  
Sov.profsotuz 6 no. 11:35-37 S '58. (MIRA 11:10)

1. Predsedatel' rabochego komiteta sovkhosa "Metallist," Stalinskoy  
oblasti.

(Stalino Province--Stock and stockbreeding)



KORNIYENKO, G. G.

"Investigation of the Phase Structure of Portland Cement Clinker and High Alumina Slag by Chemical Analysis." Cand Tech Sci, Technical Administration, All Union Sci Res Inst of Glass, Min Construction Materials Industry USSR, Moscow, 1955. (KL, No 13, Mar 55)

So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

15(6)

SOV/101-59-2-6/13

AUTHORS: Royak, S.M., Nagerova, E.I. and Korniyenko, G.G.

TITLE: Investigation of the Phase Formation of Aluminous Cement  
by Chemical Methods

PERIODICAL: Tsement, 1959, Nr 2, pp 22-24 (USSR)

ABSTRACT: The authors state that the best properties of aluminous cement are its strength at the initial periods of hardening, and radiation of heat. These features depend upon the mineralogical composition of the high-consistency aluminous slag. Such cement is obtainable by means of smelting or - caking. The mineralogical composition of cement is usually determined by means of microscopical analysis. But, with cement produced by the caking method, such examination meets with some difficulties, caused by the fine-crystalline structure of the calcinated material. Consequently, a chemical method must be used for the determination of basic components of aluminous cement. The bicalcium silicate can be determined, in accordance

Card 1/2

SOV/101-59-2-6/13

Investigation of the Phase Formation of Aluminous Cement by Chemical Methods

with a method proposed by E.I. Nagerova, by using a 5% aqueous solution of boric acid. The practical result was that calcium aluminates dissolve in the 2 - 5% solution of sodium carbonate in about 1 hour time at a temperature of 70 - 90°. The authors quote experiments made at the Pashiyskiy tsementnyy zavod (Pashiya Cement Plant) with 20 samples of aluminous cement of various mineralogic composition. Summarizing, the authors state that chemical methods of determination of the content of bicalcium silicate, helenite and even calcium aluminates are more conclusive than the microscopic methods. However, a joint use of the chemical and microscopic methods will insure an exact characteristic of the phase formation of aluminous cement. This formation may be determined by the usual methods of silicate analysis, with the application of suitable reagents. There are 2 tables.

Card 2/2

KORNIYENKO, G.G., kand.tekhn.nauk; SOMINSKIY, D.S., kand.khim.nauk

Interaction of magnesium oxide and silica sand under  
hardening conditions of lime-sand binders. Stroi.mat. 5  
no.8:32-34 Ag '59. (MIRA 12:12)  
(Sand) (Lime)

KORNIYENKO, G.G., kand.tekhn.nauk; SOMINSKIY, D.S., kand.khim.nauk

Studying the hardening of peat-ash binders. Stroi. mat. 6 no.11:37-  
38 N '60. (MIRA 13:11)

(Binding materials)

KORNIYENKO, G.G.

Using methods of efficient chemical analysis to study the  
phase composition of peat and fly ash cement. Sbor. trud.  
VNIINSM no.4:88-94 '61. (MIRA 15:2)  
(Cement clinkers--Testing)

KORNIYENKO, G.I.; PAVLOV, N.N., kand.tekhn.nauk

Increasing the reliability of a standard flip-flop  
with junction transistors by means of a buffer stage.  
Avtom,i prib. no.3:27-31 J1-S '62. (MIRA 16:2)

1. Vychislitel'nyy tsentr AN UkrSSR.  
(Electronic digital computers)

ACC NR: AM6016004

Monograph

UR/

Babenko, Lyudmila Petrovna; Dovgopolaya, Lyudmila Ivanova; Korniyenko, Galina Mikhaylovna; YUshchenko, YEkaterina Logvinovna

Automatic programming system for the M-20 computer; translator from the address language. A manual (Sistema avtomaticheskogo programmirovaniya dlya mashiny M-20; translyator s adresnogo yazyka. Spravochnoye rukovodstvo) Kiev, Naukova dumka, 1965. 153 p. illus., biblio. (At head of title: Akademiya nauk Ukrainskoy SSR) 7750 copies printed.

TOPIC TAGS: computer language, computer programming, algorithmic language, machine language

PURPOSE AND COVERAGE: This book is intended for persons who use computers in their work or are engaged in the designing of automatic programming systems. The algorithmic address language used for describing computational, and information and logical processes, as well as the respective programming program developed at the Institute of Cybernetics, AN UkrSSR for the Soviet M-20 computer, are described in detail. Methods of programming a program and examples of programming are reviewed. The automated programming system developed by the authors makes it possible to increase the calculation rate on the M-20 computer by a factor of 10 to 15.

Card 1/3

ACC NR: AM6016004

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000824720016-

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4. Description of programming unit algorithms -- 27
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1. Calculation of a production plan based on a given yield program -- 86
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## Appendices

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ACC NR: AM6016004



SOLOVEY, B., inzh-kapitan; KORNIYENKO, I., inzh.-podpolkovnik

Our experience in the technical training of tankmen. Voen. vest.  
39 no.3:58-63 Mr '59. (MIRA 12:6)  
(Tanks (Military science)) (Military education)

89824

27.2000 (1080,1331)

S/107/61/000/002/002/003  
EO73/E535

AUTHORS: Berestovskiy, G., Engineer and Korniyenko, I.,  
Candidate of Biological Sciences

TITLE: Bioelectricity and the Cell

PERIODICAL: Radio, 1961, No.2, pp.17-20

TEXT: In addition to contacts between adjacent nerve cells, the nerves are also interconnected by means of axons. These consist of a protoplasmic core with a membrane which, on the outside, is covered by myelinated casing which has good insulating properties. Some axons do not have a myelinated casing. In axons with myelinated casings the speed of transmission is about 90 m/sec. In the ones without a myelinated casing the speed is 7 to 15 m/sec. Experiments with cells have to be carried out with micro-electrodes (metal or glass). Metal electrodes have a point diameter of 1  $\mu$  and a relatively low resistance ( $10^4$  to  $10^6$  ohms). Glass electrodes, pipettes filled with electrolyte, can be produced with end point diameters of 0.1  $\mu$ . However, the resistance of these is very great, 10 to 100 Mohms. In the unexcited state a constant potential difference exists between the internal and the external regions and the membrane seems to play the same role as insulating material in

Card 1/9

89824

S/107/61/000/002/002/003  
E073/E535

Bioelectricity and the Cell

a condenser. The position appears to be similar to that in a P-N junction of semiconductor diodes. Experiments on the activity of nerve fibres are made by means of artificial excitation with square-topped pulses of a few msec duration. Fig.2 shows a sketch of a set-up for studying the electrical phenomena in an axon in the excited state. The figure also contains an oscillogram of a pulse which propagates along the fibre and is received by a micro-electrode placed inside the cell. The pulse amplitude is 100 to 120 mV, its duration between one and several msec. The parameters of the pulse do not depend on the excitation force and remain relatively constant during their passage through the axon, i.e. they propagate without attenuation. This is the case only if the excitation current exceeds the threshold value, which is such that induced e.m.f. from adjacent excited fibres (0.1 to 1 mV) does not lead to erroneous excitation of a given axon (high noise suppression). As a rough approximation, the axon communication line can be imagined as a loop of multi-vibrators interconnected by means of low frequency RC filters. If one or two axon links do not respond, the communication is not interrupted, since the amplitude of the actuating pulse is

Card 2/9

89824

Bioelectricity and the Cell

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E073/E535

5 to 6 times higher than the excitation threshold, so that even if the signal is received by the third link with considerable attenuation it will still be strong enough to excite it. The transmission of information to differing organs of the body is effected by changing the frequency of the pulse sequence along the appropriate axons and also by changing the number of active axons. The muscles are similarly controlled; excitation pulses produce contraction of the muscles, the intensity of which increases with increasing pulse frequency. If the axon is in the excited state, the resistance of the membrane is sharply reduced along an ion flow; the potential difference on the membrane drops and even changes sign. Following that, the particular part of the fibre reverts to the initial state. For recording bioelectric signals tapped off by means of micro-electrodes, high gain ( $10^3$  to  $10^6$ ) amplifiers with high input resistance ( $10^9$  to  $10^{11}$  ohm) and a wide passband are required. It is difficult to produce high resistance input stages. However, this problem can be easily solved by circuits designed for tapping off d.c. potentials. Either electrometric tubes or other types of ordinary tubes are used with operating regimes such as to obtain

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minimum grid currents ( $10^{-11}$  to  $10^{-12}$  A). To reduce input capacity, cathode repeaters are used and to reduce the capacitance to ground of the grid connection the tube, together with the grid input lead, are screened and the screen is connected to the cathode. However, even in this case a capacitance of the order of 2 to 5 pF will remain. The circuit, Fig.3a, enables obtaining an input capacitance of 0.1 pF and a input resistance of  $10^{10}$  ohms. If it is not possible to ground one of the micro-electrodes, bipolar leads have to be used for tapping off the potentials. In this case, the input stage, as well as the amplifier, have to be of the balance-differential type, a two-stage amplifier with a high resistance in the cathode circuits of both tubes (Fig.3b). For counter phase input signals, the gain in a stage can be 100 to 1000 times as large as synphase input signals. For exciting cells, stimulator oscillators are used, which produce square-topped voltage pulses of durations of tens of  $\mu$ sec to several sec with various pulse sequences. The output of the stimulator must be insulated from the ground otherwise it would be transmitted by the object and recorded on the oscillograph. The problem can be solved by transmitting

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the pulse through a high frequency transformer, using a 1 to 3 Mc/s carrier frequency and then to obtain the rectangular stimulator pulse from the secondary circuit by using a detector circuit. Such a transformer is usually made without an iron core, which has the disadvantage of very high leakage. Transformers with ferrite cores have a low leakage but the capacitance between the windings is increased, which is undesirable. Yu. M. Lebedev-Krasin (Radiotekhnika, 1957, No.9) described a special transformer in which each of the windings is wound on its own toroidal ferrite core and the coupling between the magnetic fluxes of the cores is effected by means of a short-circuited turn in the form of two brass cups bolted together. An electrostatic screen, a brass disc, is placed between the two cores. The mass of the transformer is grounded. Such a transformer has a negligible transfer capacitance and is suitable for operation in the frequency range of 1 kc/s to 100 Mc/s. For measuring the electric parameters of nerve and muscle fibres, electronic circuits are used, particularly a.c. (10 to 100 kc/s) bridges. The high frequencies are chosen because at such frequencies even higher voltages will not influence the state of the object under investigation. A new field of biological investigation is

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molecular biology. Radio spectroscopy investigations (Laboratoriya fizicheskoy khimii biopolimerov AN SSSR, Laboratory of Physical Chemistry of Biopolymers, AS, USSR) of the physical properties of nucleic acids, which are the carriers of hereditary information in the cells, revealed anomalous magnetic properties which are similar to the antiferromagnetic properties of substances and the associated anomalies in the electrical properties are similar to those encountered in ferroelectrics. In view of the fact that ferro-electrics are being used for memories in computers, it is easy to understand the major interest of scientists in these effects of biopolymers in conjunction with problems of hereditary and study of the mechanism of memory in living beings. There are 4 figures.

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KORNIYENKO, I.A.

Mechanism of protracted collapse in bacterial intoxication at an early stage of development. Biul. eksp. biol. i med. 47 no.6:23-28 Je '59. (MIRA 12:8)

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(MICROCOCCUS PYOGENES,

toxin causing protracted collapse in young animals (Rus))

(SHIGELLA,  
same)

(COLLAPSE, exper.

caused by Shigella & Micrococcus pyogenes toxins in young animals (Rus))

GOKHBLIT, I.I.; KORNIYENKO, I.A.

Demarcational difference in potentials as a characteristic of the changing condition of polarization of skeletal muscles in various age periods. Biul. eksp. biol. i med. 49 no.2:26-31 F '60.

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(MUSCLE)

(AGING)

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AUTHOR: Deshcherevskiy, V. I.; Korniyenko, I. A.

TITLE: The influence of heavy water on the vital stainability and thermal stability of skeletal frog muscles

SOURCE: Biofizika, v. 9, no. 3, 1964, 315-320

TOPIC TAGS: heavy water, heavy water induced disturbance, contractability inhibition, vital stain, vital stainability, deuterium, intracellular structure stability, thermal contractive resistance, protoplasmic colloid, actomyosin, cell wall lipid

ABSTRACT: In a preliminary study of functional disturbances caused by D<sub>2</sub>O the authors had found increased excitability of the frog sartorius muscle and inhibition of contractability. This pointed towards paranecrosis of the protoplasm which had earlier been shown to be accompanied by increased sorption of vital dyes. The stainability was used for determining the cytoplasmic state in the isolated frog sartorius. Neutral red in Ringer solution containing 50 or 95% D<sub>2</sub>O served as the dye for the right muscle, the left serving as control. It was then extracted and the amount determined colorimetrically. Results are tabulated for controls and

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